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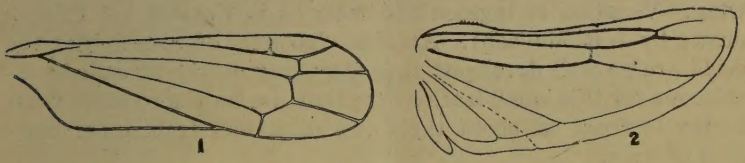
NOTES ON EUPTERYGID LEAF-HOPPERS WITH DESCRIPTIONS OF A FEW FORMS (HOMOPTERA)

By W. L. McATEE



1.—Forewing; 2.—hindwing, of *Joruma pisca.*

The following notes on distribution extend the known ranges of the forms mentioned, and the names of host plants are given wherever possible. Nothing has been published on several of these forms since their original description so the information should be welcome. A genus, two species, and four varieties are described as new. For economy the following abbreviations are used in citing two of the localities: Onaga for Onaga, Kansas, January 6, 1921, French Creek, under leaves, F. F. Clevecoeur; and Perry, for Camp Perry, Ohio, September 5, 1921, W. L. McAtee. All leaf-hoppers with latter citation were collected along the shore of Lake Erie on wild grape which they had thoroughly riddled.

Genus Alebra Fieber

A. albostriella var. *albostriella* Fallen.—Woodstock, Vt., A. P. Morse.

A. albostriella var. *discicollis* Herrich-Schaffer.—Falls Church, Va., June 6, N. Banks.

A. bicincta DeLong.—DuBois, Ill., August 9, 1917, J. R. Malloch.

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Genus **Empoasca** Walsh

E. trifasciata Gillette.—Falls Church, Va., June 7, N. Banks.

E. albolinea Gillette.—Indianola, Nebraska, July 5; Cambridge, Mass., July, on maple.

Joruma new genus

This genus is intermediate in character between the two main groups of Eupterygidae that lack an appendix to the hemelytron. These groups have been distinguished by the characters: wing with, and without submarginal vein, respectively. A clearer way of expressing the same thought is apical cells of the wing closed, and the alternative, apical cells of the wing open. The present genus has one open and one closed apical cell in the wing. Venation of tegmen and wing as in Figures 1-2 (kindly drawn by J. R. Malloch). Another character of note is that the ocelli are so well developed that they may justly be called conspicuous for this small leafhopper; they are on the rondure from vertex to front, at about their own diameters from inner margins of eyes.

Other features of this insect probably of generic significance are the following. The cross-vein that would form base of first apical cell of tegmen is nearly obsolete. There is a row of coarse punctures extending about one-third of way across pronotum in front of each humeral angle and there is a nearly percurrent median impressed line on the vertex.

The genus is named for John Russell Malloch who is equally acute and successful in collecting as he is in the taxonomy of insects.

Genotype the following species:

Joruma pisca new species

Head and thorax dark brown above appearing as if underlaid by reddish; tegmina uniformly fumose with dark greenish reflections; most of face and legs pale yellow, the upper part of front and anterior part of vertex, more or less reddish, sometimes paler just around ocelli; abdomen chiefly brown above and pale yellow below with edgings of the alternate color; pleural regions more or less reddish. Length: 3 mm.

Holotype ♀, Plummers Id., Md., August 27, 1922, J. R. Malloch; allotype, Glen Echo, Md., August 22, 1922, W. L. McAtee; paratype ♀, Glen Echo, Md., July 23, 1922, J. R. Malloch. A female from San Domingo, W. I., 6.8.05, August Busck (U. S. Nat. Mus.), seen only after the preceding account was in ms. is made a paratype. Another specimen in too poor condition to be included in the type material is from La Ceiba, Honduras, Aug. 17, 1916, F. J. Dyer. (U. S. N. M.)

Joruma adusta new species

Another specimen of this genus recently found represents a species distinct from the genotype. It agrees exactly with the generic characters as already defined, and in the main is colored like the genotype. Reddish tints are almost absent, however, and the front of vertex between ocelli and middle of face are covered by a broad dusky band. This species is also longer and broader than *pisca;* the vertex is more rounded, its median length scarcely greater than that along inner margin of eye, while in *pisca* the vertex is more produced, the median length being decidedly more than that along inner margin of eye. Length 3.5 mm. Holotype ♀, Chapada, Brazil, January, C. F. Baker, (U. S. Nat. Mus.)

Genus **Eupteryx** Curtis

E. artemisiae Kirchbaum.—Arnold arboretum, Boston, Mass., swept from *Artemisia* sp., July 27, 1921, Harold Morrison. This species has not previously been recorded from the United States.

E. flavoscuta var. *flavoscuta* Gillette.—Beltsville, Md., May 21, 1922; Glen Echo, Md., August 8, 28, 1921; May 14, September 17, 1922; Chain Bridge, Va., September 11, 18, 1921, J. R. Malloch. This species lives on ferns.

E. flavoscuta var. *nigra* Osborn.—Beltsville, Md., May 21, 1922; Glen Echo, Md., August 8, 28, 1921; May 14, 21, 26, J. R. Malloch; August 22, 1922, J. R. Malloch, W. L. McAtee.

E. flavoscuta var. *juvenis* McAtee.—Glen Echo, Md., July 23, 1921, J. R. Malloch.

Genus **Hymetta** McAtee

H. trifasciata var. *trifasciata* Say.—Onaga.

H. trifasciata var. *balteata* McAtee.—Cold Spring Harbor, N. Y., August 10, 1922, swarming on *Hedera helix* which the hoppers had severely injured, W. L. McAtee; Dallas, Tex., August 21, 1922, on cultivated grape, F. C. Bishopp; Ames, Iowa, various dates, April to September.

Genus **Erythroneura** Fitch

E. vulnerata var. *vulnerata* Fitch, fulvous form.—Perry; Vermillion, Ohio, July 21, 1921, on Delaware grape, C. I. Bliss; red form: St. Louis, Mo., on elm, T. Pergande.

E. vulnerata var. *niger* Gillette.—Onaga.

Erythroneura hubbardi new species

This species has a very distinct type of coloration from any previously described American form, and suggests very strongly

in this respect some of the European species of Eupteryx. The scutellum and parts anterior are sooty fuscous (the eyes somewhat reddish); the tegmen is pale yellow, with the extreme base of clavus sooty and a fuscous mark beginning at apical third of clavus, skirting costal plaque and covering remainder of the surface posteriorly except for the following clear areoles: a small one on radial margin in apex of clavus; a larger one in the end of each sectorial area; the extremely large first apical cell almost entirely; three small round spots in second apical cell, two of them on margin, one at exterior angle; three large and two small spots in basal two-thirds of third apical cell, and the apex of this cell; a large spot basally, connecting with radial margin in fourth apical cell and two small round spots toward the apex. Moderately wide margin of pronotum and head as seen from below sooty brown, a narrow line between eyes, and remainder of lower parts, including legs, but excluding the sooty brown genitalia, pale yellow. Venation of tegmen of the *vulnerata* type; vertex longer than wide between the eyes, blunt. Length: 2.75 mm. Holotype ♀, Chiricahua Mts., Ariz., June 9, H. G. Hubbard (U. S. Nat. Mus.)

E. obliqua var. *obliqua* Say, red form.—Washington, D. C., November 3, 1895, on oak, T. Pergande; yellow form: Sea Cliff, N. Y., N. Banks.

E. obliqua var. *electa* McAtee.—Falls Church, Va., March 28, N. Banks.

E. obliqua var. *eluta* McAtee.—Glen Echo, Md., August 22, 1922, W. L. McAtee.

Erythroneura erosa new species

Venation resembles that of *obliqua* Say. In two specimens examined a vitta covering more or less of vertex, middle part of pronotum and most of scutellum; differs considerably in details; in one specimen this vitta is sanguineous (nearly orange on posterior part of pronotum), is underlaid by dark stripes along inner margins of eyes, and by three pairs of dusky spots, one pair near front of vertex, a pair of smaller ones just behind, and a pair larger than either of the others near front of pronotum. In the other specimen the vertex is yellow, with only the anterior pair of spots and median line posteriorly dusky, posterior disk reddish; front of pronotum dusky, two large discal spots scarlet; anterior disk and extreme lateral angles of scutellum and margins of pronotum pale yellow; ground color of tegmina greenish yellow, clavus with two large oblong blotches on basal two-thirds, and corium with a single similar blotch exterior to hind part of clavus, and another just posterior, coral-red (glossy spectrum red in one specimen). All of these spots have their edges ragged or erose. Apical cells, apex of clavus, and hind part of costal plaque dusky fumose; a band of coral-red spots over cross veins in one specimen. Length 3 mm.

Holotype ♀, Los Angeles Co., Calif., D. W. Coquillett (U. S. Nat. Mus.); paratype ♀, Spreckels, Calif., Sept. 10, 1907, E. D. Ball (Ball).

E. tecta var. *tecta* McAtee.—Glen Echo, Md., August 28, 1821, J. R. Malloch; New Hampshire, F. Blanchard.

E. tecta var. *carbonata* McAtee.—Glen Echo, Md., July 16, August 22, 1922; Chain Bridge, Va., September 10, 1922, J. R. Malloch; Middlesex Fells, Mass., August 28, August 29, N. Banks; New Hampshire, F. Blanchard.

Erythroneura abolla var. divisa new variety

General color above sulphur-yellow, hind margin and a median longitudinal line on vertex, disk of pronotum, scutellum, and commissure broadly dusky to black, a coloration reinforced by the dark dorsum of abdomen; membrane as well as ends of the cells between sectors dusky hyaline. General color below sulphur-yellow, legs stramineous. Length 2.75 mm. Holotype male, Glen Echo, Md., July 16, 1922, J. R. Malloch.

E. tecta var. *tecta* McAtee.—Glen Echo, Md., August 28, 1821, J. R. Malloch; New Hampshire, F. Blanchard.

E. tecta var. *carbonata* McAtee.—Glen Echo, Md., July 16, August 22, 1922; Chain Bridge, Va., September 10, 1922, J. R. Malloch; Middlesex Fells, Mass., August 28, August 29, N. Banks; New Hampshire, F. Blanchard.

E. aclys McAtee.—Glen Echo, Md., August 21, 1921, April 23, July 9, 30, 1922, July 1, 1923; Virginia near Plummers Id., Md., August 27, 1922, J. R. Malloch; Kingston, N. J., August 20, 1923, on redbud, H. B. Weiss.

E. morgani Delong, red and yellow forms.—Chain Bridge, Va., April 16, 23, May 7, August 20, September 17, 1922, April 23, 1923, J. R. Malloch.

E. basilaris var. *basilaris* Say, red form.—New Hampshire, F. Blanchard.

E. basilaris var. *affinis* Fitch.—Onaga; Falls Church, Va., April 7, N. Banks.

E. maculata var. *maculata* Gillette, red and yellow forms.—Sandusky, Ohio, August 16, 1921, on sycamore, C. I. Bliss; Perry; red form only: Washington, D. C., November 3, 1895, on oak, T. Pergande; Sea Cliff, N. Y., August; Cambridge, Mass., October 10, N. Banks.

E. maculata var. *bella* McAtee, yellow form.—Glen Echo, Md., August 22, 1922, J. R. Malloch.

E. maculata var. *osborni* De Long.—Chain Bridge, Va., September 11, 1921, April 23, 1923; Glen Echo, Md., August 22, 1922, August 10, 1923, J. R. Malloch.

E. maculata var. *bigemina* McAtee.—Onaga.

E. maculata var. *gemina* McAtee.—Glen Echo, Md., July 4, Aug. 28, 1921, J. R. Malloch.

Erythroneura maculata var. confirmata new variety

Markings of head, thorax and scutellum as usual in the *maculata* type, yellow; tegmen with a streak along claval suture anteriorly, an oblique dash at base of corium and another at anterior end of costal plaque, yellow; dot at posterior end of plaque, and in base of fourth apical cell black; and

the following markings red, broad vitta based on costal plaque, extending inwardly and crossing clavus as an oblique broad band, and a straight narrow stripe, connected narrowly behind to a spot which spreads so as to fill spaces between sectors anterior to third and fourth apical cells, also ramose marking on cross veins; costal plaque dusky bluish hyaline, apical cells fumose. Color below pale yellow. Length: 2.75 mm.

Holotype, and paratype males, Chain Bridge, Va., April 23, 1922, J. R. Malloch.

Erythroneura maculata var. **parallela** new variety

Bears the same relation to *maculata* that var. *rubra* Gillette does to *comes*, the red markings being more extensive and denser than in the typical variety, of a darker shade of red, and the dorsum of abdomen very dark. Length: 2.5 mm.

Holotype male, Lexington, Mass., Sept. 28, 1920; paratype male, same locality, Sept. 18, 1920, and Arlington, Mass., Oct. 9, 1920. Specimens intermediate between this and the typical variety were collected at Lexington at approximate dates.

E. ligata var. *ligata* McAtee. Perry.

E. vitis var. *vitis* Harris.—Dallas, Tex., August 21, 1922, on cultivated grape, F. C. Bishopp; Washington, D. C., October, 1895, on *Cercis canadensis*, T. pergande; Perry; Ottawa County, Ohio, September 4, 1921, on *Vitis vulpina*, C. I. Bliss.

E. vitis var. *bistrata* McAtee.—Fort Washington, Pa., September 24, 1921, H. L. Viereck.

E. vitis var. *stricta* McAtee.—Perry.

E. tricincta var. *tricincta* Fitch, yellow form.—Kelley's Id., Ohio, July 30, 1920, on Clinton grapes; Put-in-Bay, Ohio, August 3, 1920, on Catawba grape, C. I. Bliss; Perry.

E. tricincta var. *calycula* McAtee, yellow form.—Chain Bridge, Va., September 11, 1921, May 7, 1922, J. R. Malloch.

E. tricincta var. *integra* McAtee, yellow form.—Chain Bridge, Va., October 2, 1921, April 23, 1922, J. R. Malloch.

E. comes var. *comes* Say, red and yellow forms.—Rocky River, Ohio, September 1, 1920, on Catawba grape, C. I. Bliss; yellow form only; Black Mt., N. C., May, N. Banks.

E. comes var. *vitifex Fitch*, red form.—Dallas, Tex., Aug. 21, 1922, on cultivated grape, F. C. Bishopp; Colorado (No. 1854).

E. comes var. *elegans* McAtee.—Cambridge, Mass., October 3, November 1; Lexington, Mass., September 7.

E. comes var. *rubra* Gillette.—Perry.

E. comes var. *rubrella* McAtee.—Onaga; Sea Cliff, N. Y., N. Banks.

E. comes var. *delicata* McAtee, red form.—Falls Church, Va., March 26, N. Banks; Chain Bridge, Va., April 16, 23, 1922, J. R. Malloch.

E. comes var. *accepta* McAtee, yellow form.—Chain Bridge, Va., May 7, 1922, J. R. Malloch.

E. comes var. *compta* McAtee, yellow and red forms.—Middle Bass Id., Ohio, August 10, 1920, on Catawba grape, C. I. Bliss.

E. comes var. *ziczac* Walsh, red and yellow forms.—North Bass Id., Ohio, August 6, 1920, on Clinton grape, C. I. Bliss; red form only; Perry; Wichita, Kans., August 31, 1918, on English ivy, J. R. Horton.

Erythroneura comes var. bidens new variety

Like *E. comes* var. *rubra* Gillete, except that the upper surface of pronotum save a semi-elliptical space on each anterior angle, and a semicircular spot in middle of front margin, is black. Length 2.8 mm. Holotype male, Virginia near Stubblefield Fall, on *Pinus virginiana*, October 23, 1921, J. R. Malloch.

Erythroneura comes var. suffusa new variety

What is left of the ground color is pale yellow, but the vertex has a median dusky vitta, flanked at its apex by dark parentheses; the pronotum has the hind margin and much of disk dusky to black; the scutellum with a short median vitta from base, or more of basal part, dusky to black; and the tegmen except for costa is dusky fumose; in best marked individuals the usual black markings of *comes* are distinct and colored markings typically indistinct; color below also chiefly dark, middle of face, legs, and abdominal edgings paler. Length: 2.75-3 mm.

Holotype male Glen Echo, Md., July 16, 1922, J. R. Malloch; paratypes both sexes, same locality, July 10, 17, 23, August 8, 1921, and May 26, 1923, J. R. Malloch; August 22, 1922, W. L. McAtee.

THE CHRYSOMELIDAE OF FLORIDA

By W. S. BLATCHLEY
Dunedin, Florida

(Continued from page 23)

*209 (16015). C. **crenulata** Cr.—"Sumter Co., very rare" (Sz.). At hand from Gainesville; taken by Watson in June by beating in flat-woods.

*210 (16016). C. **confinis** Cr.—Throughout the State, south to Ft. Myers and Moore Haven. At hand from four stations and recorded from numerous others. Common about Dunedin, Nov.-Apr. on soy-beans, Convolvulaceae and other vegetation, especially in low mucky grounds. Gainesville, abundant, Mch.-Apr., in the hammocks on basswood, wild cherry, buckeye, etc. (Doz.); velvet beans, Nov.; oak, Apr.; maple, June (Wat.). In the North known as the "sweet potato flea-beetle."

*211 (16020). C. **quadricollis** Sz., 1878, 368.—Types from Enterprise and New Smyrna, May-June. Biscayne Bay and L. Worth (Sz. Ms.). Common in truck patches around the southern half of L. Okeechobee in March (Bl. 1923).

LIII. Systena Clark.

Small elongate, convex black or dull yellow glabrous species (3-5 mm.) having the thorax without basal impression, elytral punctures confused, front coxal cavities closed, spur of hind

tibiae small and slender. The adults live mainly on marsh vegetation, as *Polygonum*, etc.

*212 (16023½). **S. frontalis** (Fabr.).—Northern part of State, south to Citrus Center (Davis Coll.). At hand from Gainesville and Dunedin, at the former on smartweed, July (Wat.); rare at Dunedin at porch-light, June 15. Occurs usually on *Polygonum* about the margins of ponds. Leng, in his Catalogue, forgot to number this and it appears erroneously as a synonym of *pallicornis* Schæffer, a Texas species.

213 (16026). **S. pallipes** Sz., 1878, 367.—Types from "different parts of Florida, abundant on swampy meadows in May and June" (Sz.). L. Poinsett, L. Ashley, Baldwin and Crescent City (Sz. Ms.). Ft. Myers, Apr. 20 (Davis Coll.).

*214 (16027). **S. elongata** (Fabr.).—"Enterprise, not rare" (Sz.). St. Augustine (Ham.). Moore Haven, Mch. 27, on foliage in low mucky soil. Gainesville, on *Helenium*, June (Wat.).

*215 (16029). **S. marginalis** (Ill.).—Crescent City and Haw Creek (Sz. Ms.). Dunedin, rare, Mch. 28, on wax-myrtle; July 5 at porch-light. Gainesville, on *Polymnia* and *Myrica*, June; L. Wales, on oak (Wat.).

LIV. **Longitarsus** Latreille.

Very small oblong-oval, strongly convex, glabrous species (1-2.5 mm.) blackish or dull yellow in hue and having the front coxal cavities open behind, thorax without basal impression, elytral punctures confused, hind tibiae with apex entire, first joint of hind tarsus nearly half the length of tibia. (For key to species see Bl., 1921). The adults live mainly on subaquatic vegetation along the edges of marshes or on herbage in dense woodland.

216 (16032). **L. varicornis** Suffr.—Leng, in his catalogue, mentions *L. heliophyti* Horn, a synonym, as occurring in Florida, Alabama and Texas. No other State record. Occurs on the Indian heliotrope, *Heliotropium indicum* L.

*217 (16046). **L. pygmaeus** Horn.—"Enterprise, Tampa, Baldwin and Sumter County" (Sz. Ms.). At hand from Arch Creek and Dunedin. Frequent about Dunedin, Dec.-Apr., on tall dead grasses along the margins of ponds. Described from Georgia.

218 (16047). **L. testaceus** Melsh.—Northern part of the State south to L. Okeechobee (Davis Coll.). Numerous records by Schwarz (Ms.) and others but part of them doubtless refer to *L. cotulus* and *tenuicornis*.

*219 (——). **L. tenuicornis** Blatch., 1923, 34.—Types from Sanford, Dunedin, La Belle, Moore Haven and Ft. Myers, Nov. 21-Apr. 4. Common on low vegetation about the borders of ponds and lakes and at Dunedin on the fleshy crucifer, *Cakile edentula* (Bigel), along the bay front.

*220 (16048). **L. cotulus** Blatch., 1914, 141.—Types from Kissimmee, Dunedin, Eustis and Sanford. Occurs throughout the State, south to Moore Haven, on May weed or dog-fennel, *Anthemis cotula* L. and allied Compositæ. Gainesville, May-Dec., on *Eupatorium, Cephalanthus*, velvet beans, chinquapin, etc." (Wat.).

221 (16049). **L. melanurus** Melsh.—Lake Harney (Sz. Ms.). Crescent City (Wic.). Horn gives North Carolina as its southern range.

*222 (——). **L. fuscicornis** Blatch., 1919, 65.—Types from Dunedin, Oct. 26-Dec. 13, where it occurs on low vegetation about ponds. No other record.

*223 (16052). **L. perforatus** Horn, 1889, 286.—Types from Tampa. Frequent about Dunedin, Feb.-Apr., on tall dead grasses about the margins of "wet-weather" ponds.

*224 (——). **L. impuncticollis** Blatch., 1923, 35.—Types from Dunedin, Feb. 28, swept from vegetation about the margin of a pond.

*225 (16053). **L. solidaginis** Horn, 1889, 286.—Types from Sumter County on a species of *Solidago*. Orange County (Sz. Ms.). Frequent about Dunedin, Jan.-Apr., on huckleberry and other low shrubs in open pine woods and about the margins of hammocks. Hibernates beneath pine bark and in Spanish moss.

*226 (——). **L. subcylindricus** Blatch., 1920, 70.—Type from Dunedin Mch. 27; taken by beating in dense hammock.

*227 (——). **L. aeneola** Blatch., 1923, 35.—Type from Caxambus, Mch. 6; swept from low herbage along the margin of a salt water lagoon.

LV. Glyptina Leconte.

Small oblong-oval species (1.5-3.5 mm.), closely allied to *Longitarsus* but having the elytra blue or dull yellow, their punctures in rows, first joint of hind tarsus not more than one-third the length of tibia.

228 (16056). **G. bicolor** Horn.—Biscayne Bay, Slosson collection, Jan.-Mch. (Leng Ms.). No other State record.

229 (16058). **G. cyanipennis** Cr.—Biscayne Bay (Horn, 1889). No other State record. Occurs in Indiana on the Virginia-creeper, *Parthenocissus quinquefolia* (L.).

230 (16060). **G. brunnea** Horn.—Tampa and L. Ashley (Sz. Ms.).

*231 (16061). **G. spuria** Lec.—"Enterprise, rare" (Sz.); Tampa, Haw Creek and Punta Gorda (Sz. Ms.). Cape Sable, Feb. 27; one specimen taken by beating in hammock.

232 (16062). **G. cerina** Lec.—"Tampa very rare" (Sz.). St. Augustine (Ham.). Probably an error of identification.

LVI. Phyllotreta Foudras.

Small oblong-oval, subconvex species (2-3 mm.) allied to *Glyptina* and having the elytra blue, or piceous with pale stripes or spots, their punctures confused; hind tibiae not grooved, the spur at middle of tip. The adults feed on cruciferous plants both wild and cultivated.

*233 (16066). **P. vittata** (Fabr.).—Enterprise Apr. 17 (C. & L.). Jacksonville (Sz. Ms.). Sanford and Dunedin, rare, Apr. 4-26 sweeping in low moist gardens. Known as the "cabbage flea-beetle," the adults feed-

ing upon the leaves of turnips, cabbage and strawberries, the larvae on the roots.

234 (16076). **P. chalybeipennis** (Cr.).—"Occurs on the sea coast, Massachusetts to Florida" (Horn, 1889). No other State record. A submaritime species feeding on the sea rocket, *Cakile edentula* (Bigel).

*235 (16081). **P. picta** (Say.).—Northern two-thirds of the State, south to Tampa. At hand from Ormond, Apr. 15, beaten from oak. Gainesville, very abundant on young oak foliage, Mch.-Apr. (Doz.).

*236 (——). **P. liebecki** Schæffer, 1919, 339.—Types from Enterprise. Sanford, Mch. 28—Apr. 9; taken in numbers by sweeping herbage along the borders of cypress swamps. This is the species erroneously recorded by me (1914, 142) as *P. robusta* Horn (See Bl., 1920a, 263).

LVII. **Aphthona** Chevrolat.

Very small oval, convex, glabrous species (2-2.5 mm.) having the elytra blue or reddish-yellow, their punctures confused, hind tibiae with the inner apex notched or bilobed, the spur on inner lobe.

237 (16084). **A. insolita** (Melsh.).—Capron, "very rare" (Sz.). Miami (Kn.). Occurs in Southern Indiana on the Indian currant, *Symphoricarpos*.

LVIII. **Psylliodes** Latreille.

Small oblong-oval convex glabrous (2-2.5 mm.) piceous bronzed or bluish-green species having the antennae 10-jointed; front coxal cavities closed behind, hind tarsi inserted on the outer side of the tibiae above the apex; elytral punctures in rows.

238 (16089). **P. punctulata** Melsh.—St. Augustine (Ham.). The only State record.

*239 (16090). **P. convexior** Lec.—"Occurs in Texas, Georgia, Florida, etc." (Horn, 1889). At hand from Gainesville; taken by Watson March 10 on radish. No other State record.

*240 (16093). **P. elegans** Horn, 1889, 311.—Types from Florida and Kansas. Haulover, Enterprise and Cedar Keys (Sz.). as *P. lacustris;* changed (Ms.) to *P. elegans*. At hand from Ormond, Caxambus and several intervening stations. Frequent about Dunedin, Jan.—Apr., especially so on the field sorrel, *Rumex acetosella* L., in sandy cultivated grounds, and the fleshy sea-rocket along the bay beach.

LIX. **Stenispa** Baly.

Elongate, subcylindrical black or bluish-black species of medium size (5-7 mm.) having the head inserted in thorax to eyes, its front inflexed, the mouth inferior; thorax as broad as elytra, the latter not costate but with finely punctate striae; tarsal claws widely divaricate. This and the genera with costate elytra up to LXVI, comprise the subfamily *Hispinae*.

*241 (16094). **S. metallica** (Fabr.).—"Enterprise and Tampa, not rare" (Sz.). Haw Creek (Sz. Ms.). Scarce at Dunedin, Feb.-Mch., on low huckleberry and on grasses about the margins of ponds.

LX. **Anisostena** Weise.

Small elongate bluish-black species (4-5 mm.) having the antennae filiform, 11-jointed, elytra costate, middle tibiae curved, third joint of tarsus bilobed, tarsal claws divergent. The generic name in former use was *Charistena*.

242 (16096). **A. nigrita** (Oliv.).—"Florida" Horn Coll. (Cr.). Enterprise (C. & L.).

*243 (16102). **A. ariadne** Newm.—Scarce in the northern part of the State, south to La Belle. At hand from Sanford and Dunedin, Febr.-Apr.; taken beneath boards in damp places. Gainesville, July (Wat.). LaBelle Apr. (Kn.).

244 (16103). **A. lecontei** Baly.—"Florida, rare." (Horn, 1883). St. Augustine (Ham.).

LXI. **Anoplitis** Chapuis.

Small elongate-oval species (3.5-4 mm.) ; dull red, often marked with fuscous; antennae 11-jointed, elytra costate, with eight rows of punctures, middle tibiae straight. Formerly listed as *Odontota* or *Chalepus*.

*245 (16105). **A. inæqualis** (Web.).—"Lake Harney and Enterprise, rare" (Sz.). as *O. rosea* Web.; changed to *nervosa (=inaequalis)* (Sz. Ms.). Sanford (Wic.) as *nervosa*. Gainesville on *Polymnia* and *Rhus*, July (Wat.). At hand from Eustis and Dunedin, Apr.; swept from low herbage. Leng includes *A. rosea* Web. from "Fla.", but this was evidently based on the first record by Schwarz. That name is usually considered a synonym of *inaequalis*, as the species is extremely variable in color.

LXII. **Chalepus** Thunberg.

Elongate-oval species of medium size (5-7 mm.) with black elytra and thorax in part or wholly red; elytra with three costae and ten rows of punctures. Formerly listed as *Odontota*.

*246 (16109). **C. bicolor** (Oliv.).—Occurs throughout the State. At hand from six stations and reported from numerous others. Occurs in spring and summer on low herbage, usually in moist places.

*247 (16111). **C. scapularis** (Oliv.).—"Tampa, one specimen" (Sz.). Crescent City (Sz. Ms.). At hand from Sanford. Istokpoga and Dunedin, Mch.-Apr.; taken while beating in dense wet hammocks.

*248 (16112). **C. notatus** (Oliv.).—Northern three-fourths of the State, south to Miami; numerous records. At hand from Ormond, Sanford and Dunedin, Mch.-Apr.; taken with the preceding and by sweeping low herbage. Gainesville on blackberry, *Ostrya* (hop-hornbeam) and oak, Apr. (Doz.).

LXIII. **Baliosus** Weise.

Similar to *Chalepus* but elytra dull red with scattered fuscous marks and a fourth costa at base and apex.

*249 (16116). **B. rubra** (Web.).—Northern part of the State, south to Lakeland and Dunedin. At hand from five stations, Mch.-Apr.; beaten from wax-myrtle and oak. Gainesville on oak and linden, Jan.-June, mating June 11 (Doz.).

LXIV. **Octotoma** Suffrian.

Small oblong-oval species (4.5-5 mm.), dull black with thorax in part red; antennae clavate, 8-jointed; elytra with short oblique plicæ.

*250 (16124). **O. plicatula** (Fabr.).—Archer, by Kœbele (Sz. Ms.). Gainesville on buckeye and ash, Mch. 6-25 (Doz.).

LXV. **Uroplata** Baly.

Small, elongate, parallel-sided, dull black, species (3 mm.) having the antennae 8-jointed; elytra costate and with ten rows of punctures. Formerly included with *Microrhopala.*

*251 (16126). **U. porcata** (Melsh).—"Enterprise and Tampa, very rare" (Sz.). Jacksonville (Sz. Ms.). Moore Haven (Kn.). Scarce about Dunedin Jan.-Apr., on oak and low huckleberry.

LXVI. **Microrhopala** Baly.

Small oblong-oval black or dark-blue species (4.5-5 mm.), similar to *Uroplata* but the elytra with only eight rows of punctures.

*252 (16132). **M. floridana** Sz., 1878, 369.—Types from Sumter County, Enterprise, New Smyrna and Tampa. Baldwin (Sz. Ms.). Orlando (Kn.). Sanford and Dunedin, Dec.-Apr., on the hoary lupine, *Lupinus diffusus* Nutt.

*253 (16134). **M. erebus** (Newn.).—Northern part of the State, south to Ft. Myers and Marco (Davis Coll.). Numerous records. At hand from Ormond and Dunedin, Nov.-Apr., on oak, golden-rod and low herbage. Easily known by its very large elytral punctures.

LXVII. **Porphyraspis** Hope.

Small convex dark blue species (4-5 mm.). This and all the following genera have the thorax and elytra of nearly equal width, with broad expanded margins, head usually wholly concealed beneath the thorax and body elliptical or sometimes nearly circular. They comprise the subfamily *Cassidinae* and are known as "tortoise-beetles." The larvae are oval flattened prickly grubs and feed, for the most part, upon Solanaceæ and Convolvulaceæ. (See Bl., 1910, 1229).

*254 (16137). **P. cyanea** (Say).—Northern part of the State, south to Arch Creek. Occurs throughout the year on the saw palmetto, *Serenoa serrulata* (Michx.). Specimens taken along the Kissimmee River were wholly black in hue (Bl., 1914).

LXVIII. **Chelymorpha** Boheman.

Large oblong-oval, convex species (9-15 mm.), brick-red dotted with black; front margin of thorax broadly emarginate at middle; head visible from above. Both adults and larvae feed on Convolvulaceæ.

*255 (16139). **C. cassidea** (Fabr.).—Northern part of the State, south to Moore Haven. At hand from Ormond, Lakeland and Moore Haven. Hibernates in bunches of Spanish moss and feeds on morning-glory, sweet potato and wild potato, *Ipomoea pandurata* (L.).

*256 (16139d). **C. geniculata** Boh.—Marathon Key and Key West (Br.). A submaritime tropical species occurring along both the Atlantic and Gulf coasts of the southern third of the State. At hand from Long Key, Cape Sable, Key West, Sarasota and Dunedin. Food plant, the goat's-foot morning-glory, *Ipomoea pes-caprae* Sweet., a creeping plant growing along the sea beaches. In my opinion a distinct species, not a variety of *cassidea*. (See Bl., 1920, 71).

LXIX. **Eurypepla** Boheman

Large oval convex species (10 mm.) having the head concealed by the rounded front margin of pronotum; outline deeply and broadly notched between humeri and pronotum; claws simple.

257 (16140). **E. jamaicensis** (L.).—Key West (Sz. Ms.). Cutter, July 1 (Br.). A tropical species occurring on the geiger-tree, *Sebesten sebestena* (L.).

LXX. **Physonota** Boheman.

Large elongate-oval convex greenish-yellow species (10 mm.); thorax with three black dots; head and claws as in *Eurypepla*.

258 (16142). **P. unipunctate** (Say).—Haw Creek Prairie (Sz. Ms.). No other State record. Occurs on wild bergamot, *Monarda fistulosa*, wild sunflower, *Helianthus*, and kindred plants.

LXXI. **Jonthonota** Spaeth.

Oval convex species of medium size (7-8 mm.), dull red, elytra each with one to three vague dark spots.

*259 (16149) **J. nigripes** (Oliv.).—"New Jersey, Florida, Michigan, etc." (Br.). Ocala Apr. 17. Occurs in Indiana on wild morning glory and sweet potato.

LXXII. **Orectis** Spaeth.

Small circular convex species (5-6 mm.); elytra with numerous tubercles, their margins maculate. Formerly included under *Cassida*.

260 (16151). **O. callosa** (Boh.). Crescent City (Br.). Occurs on ground cherry and other Solanaceæ.

LXXIII. **Chirida** Chapuis.

Oval subdepressed species of medium size (5-6 mm.), dull yellow, elytra often maculate with blackish; antennal joints 2-4 in repose lying in a groove, joint 3 twice as long as 2.

*261 (16152). **C. guttata** (Oliv.).—"Cedar Keys, rare" (Sz.). Enterprise (C. & L.). Lakeland, May 8 (Davis Coll.). Ormond, Mch. 27, on oak (Bl. 1902.). Gainesville, on wild sweet potato (Doz.); on sweet potato, *Eupatorium* and *Ceanothus*, Apr.-Sept. (Wat.). Often listed as *C. signifera* Hbst., a synonym.

262 (16153). **C. extensa** (Boh.).—Jacksonville and Gulfport (Schf. Ms.). Differs from *guttata* in having the elytra usually immaculate and translucent at humerus.

LXXIV. **Deloyla** Chevrolat.

Rather large, broadly oval, subdepressed species (7-8 mm.), the elytra with disk brown, rugose, and bearing numerous tubercles, its margins broadly translucent at middle.

*263 (16155). **D. clavata** (Fabr.)—Lake Worth (Ham.). Enterprise (C. & L.). Eustis, Apr. 6, one specimen, beaten from oak. Gainesville, Dec.-Apr., on oak. Apparently confined to the northern half of the State. Food plants usually various species of Solanaceæ.

LXXV. **Metriona** Weise.

Species of medium size (5-7 mm.) and dull reddish-yellow in hue, having the elytra smooth, evenly convex; third joint of antennae but slightly longer than second. Food plants Convolvulaceæ. Usually listed as *Coptocycla*.

264 (16156). **M. bivittata** (Say).—DeFuniak Springs (Sz. Ms.). The only definite State record. Occurs on sweet potato and morning-glory.

*265 (16157). **M. bicolor** (Fabr.).—Throughout the State. At hand from nine stations and reported from many others. Hibernates in bunches of Spanish moss and beneath rubbish, and in spring beaten or swept from morning-glory, wild potato and various species of low herbage. Often listed as *Coptocycla aurichalcea* Fabr., a synonym.

266 (16159). **M. purpurata** (Boh.).—Gainesville on buckeye, oak and wild morning-glory, Mch.-May (Doz.). The only definite State record and perhaps refers to the next.

*267 (——). **M. ormondensis** Blatch., 1920, 71.—Type from Ormond, Apr. 13, on wild morning-glory.

LXXVI. **Coptocycla** Boheman.

Rather small oblong-oval, strongly convex species (5.5-6 mm.), uniform dull red in hue with expanded side margins of elytra strongly declivent.

*268 (16161). **C. repudiata** Suffr.—Haw Creek, Crescent City, L. Poinsett and Cocoanut Grove, May-June (Br.). Cape Sable, Feb. 23-26, from among the roots of tufts of a coarse prairie grass (Bl. 1920). Described from Cuba.

The

FLORIDA ENTOMOLOGIST

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AN ENLARGED NUMBER

In order to have the time of publication of the different volumes of the ENTOMOLOGIST coincide with the calendar year it has been decided to combine in this issue the remaining two numbers of volumes VIII. With the New Year we will begin Volume IX.

AEROPLANE DUSTING COMING

Last month a private concern carried on demonstrations in Georgia in dusting cotton fields and peach orchards from an aeroplane, with a view to signing up the farmers for the season's dusting. The demonstration is said by those who followed it closely to have been a success. Not only was the dusting cheaper, but the distribution was more uniform than that secured from machines operating from the ground.

It would seem that dusting citrus groves for rust mite should offer a particularly attractive field for aeroplane dusting. It could be applied at the optimum time. A single plane could dust all the groves in a county in a few days at most.

PERSONALS

Dr. P. H. Rolfs, who has spent the past four years in Minas Geraes, Brazil, establishing an agricultural college and experiment station at Vicosa, is back in Florida for the winter. He addressed the Phi Kappa Phi Society of the university on De-

cember 17, and it is hoped that the Entomological Society can induce him to talk on the insects of Brazil. Dr. Rolfs returns to Brazil in March.

Dr. W. S. Blatchley has returned to Florida for the winter and is now collecting in Royal Palm Park.

Mr. G. F. Moznette will leave shortly for South America where he will study the fruit fly situation.

Among our members who will attend the meetings of the A.A.A.S. in Washington the last of December are A. H. Beyer, Dr. O. F. Burger, J. C. Goodwin, T. H. Hubbell, Geo. B. Merrill, Dr. J. H. Montgomery, Dr. Wilmon Newell, F. M. O'Byrne, Prof. J. Speed Rogers, and Dr. P. H. Rolfs.

MEETINGS OF THE SOCIETY

October 29, 1924. The first meeting of the season of the Florida Entomological Society was held in Science Hall, October 29, at 4 P.M., with President Merrill in the chair, and the following members present: Bates, Berger, Beyer, Floyd, Gray, Hubbell, Merrill, Rogers, Walker, Watson. Visitors, Bratley, Nolen, Speere.

The paper of the evening by J. R. Watson, followed. His subject was "Insects of the Desert Region of New Mexico." The speaker first discussed the climatic and moisture conditions of the desert, and their relation to the insect life of the desert region. Under climate he mentioned the sudden and violent wind storms and their effect on the insects. To avoid death in the desert they dig into the soil, especially in the middle of the day. Other principal habitats are under the leaves of the yucca or Spanish Bayonet plant. During the wind storms the tenebrionid beetles hug firmly to the base of the plants until the storm ceases. In connection with the wind storms the speaker also made a brief mention of the birds such as the prairie horned lark and the road runner. The former "roosts" on the ground or under the banks of arroyas.

It is characteristic of the animals of the desert not to be at all particular what they eat, and the darkling beetles even live on Russian thistle seedlings, and weed seeds. The darkling beetles in this section have no wings. On account of the severe winds they would be disadvantageous. Blister beetles are common and very large in size, and some also have inflated immovable elatra. Some Cerambicids resemble darkling beetles in

being wingless and feed on cactus. Digger wasps are very common especially "velvet ants," sometimes called "cattle killers." Butterflies are very rare. The speaker stated that he took only one common species on his collecting trips. He collected an abundance of geometrids. Agricultural ants were very abundant and ciccadas were also quite common. Mosquitoes were found only within a belt of 5 miles of the Rio Grande Valley.

Moisture is very scant. The light (8 in.) rain comes during the summer months of June, July, and August. At least one fourth of an inch is necessary to produce growth of the grass.

Under Brief and Timely Notes Mr. Watson mentioned the infestation of saw flies occurring in the pine trees of the state.

Mr. Beyer mentioned millipeds as injuring citrus and pecans.

Mr. Hubbell spoke of collecting a rare species of hawkmoth larva on cypress, Isoparce cypressi.

Dec. 3. The regular meeting was held in the Biological Lecture Room of Science Hall; President Merrill in the chair. The following members were present: Beyer, Gray, Hubbell, Merrill, Walker, Watson; and the following visitors: C. O. Bratley, H. E. Bratley, Cobb, Fox, Means, Nolen, Musselwhite, Speere. H. E. Bratley, R. E. Nolen, and H. L. Speere were elected to membership.

Mr. Walker presented the paper of the evening on "A Summer's Collecting of Orthoptera in Florida." He discussed and exhibited the characteristic orthoptera of the salt marsh, sand scrub, sandy ponds, cypress ponds, low pine woods, high pine woods, flat woods, and hammock. The new species collected brings the total number for Florida to 208. Of particular interest was an undescribed grasshopper from the sand scrub. Mr. Walker described the methods used in collecting. He emphasized the fact that many species not to be found at all, or rarely, during the day could be readily taken at night.

Our Common Chiggar

Dr. H. E. Ewing in the Jl. Agric. Research, Vol. XXVI, No. 9, p. 401 (Dec. 1923), writes in "Our Common N. A. Chiggar, Its Distribution and Nomenclature." He states that the proper name is *Trombicula tlalzahuatl* (Murray). Synonyms are *Leptus (Trombicula?) similis* Hirst, *L. irritans* Riley *T. cinnabaris* Ewing. The pest extends from Long Island to Mexico and from the Atlantic to the Rocky Mountains.

ADDITIONS TO THE THYSANOPTERA OF FLORIDA—XII

J. R. WATSON

(Contribution from the Department of Entomology, Fla. Ag. Exp. Sta.)

84. Eurythrips osborni Hinds.

Beaten from *Eupatorium serotinum* in bloom, Oct. 1923. Near Gainesville. Previously reported from grass, Mass. (Hinds) and Tenn. (Morgan).

85. Trichothrips marginalis Hood and Williams.

Under rotting bark, with a good growth of fungi, of a fallen maple tree. Hog-town Creek near Gainesville. Sept. 1923. (T. H. Hubbell, Coll.) Described from Louisiana, where it was found under the bark of a willow tree.

Under bark of the same maple tree the writer in Dec. 1923 took several specimens which correspond with the describtion of *T. terminalis* Hood and Williams, described from specimens taken from a stump at Orlando. It is the writer's opinion that these two species are identical.

86. Taeniothrips (Physothrips) **xanthius** Williams.

Collected by Geo. B. Merrill from cynipid galls in pigeon plums sent in from Miami by Reginald Hart.

Described and known only from *Cattleya* orchids from Trinidad, W. I.

87. Gastrothrips (?) pallidus, n. sp.

Color of body and legs a very pale yellow flecked with conspicuous hypodermal pigment which (like the eyes) is purple by transmitted, and bright red by reflected light; antennae light gray, bases of segments 3-6 colorless, apical antennal segments and tube a darker gray. *Head* about as wide as long; cheeks decidedly bulging, abruptly rounded to the eyes and converging posteriorly, destitute of conspicuous bristles. *Eyes* rather small, diameter much less than the distance between them. *Ocelli* large, straw-colored, well separated from each other but posterior pair well separated from margins of eyes, opposite the anterior third of eyes; bordered with deep orange crescents. *Mouth-cone* long, reaching the mesosternum. Labium broadly rounded at the apex. Labrum sharp-pointed and scarcely attaining tip of labium, tip dark. *Antennae* less than twice as long as head; segment 1 very broad, especially at the base, concolorous with the head; 2, urn-shaped with a broad short pedicel, uniformly grayish; 3, subclavate, tapering uniformly to a narrow base, gray in apical third, almost colorless in basal two-thirds; 4, ovoid, darker gray in apical half or two thirds, colorless at the broad base; 5, more narrowly ovoid, basal third colorless; 6, barrel-shaped with a broad colorless pedicel; 7, sub-cylindrical, abruptly contracted to a broad base; 8, sub-conical, contracted at base; 7 and 8 uniformly dark gray. *Prothorax* distinctly shorter than the head and (including coxae) nearly twice as broad as long; each angle and also coxa bears a short but rather heavy, knobbed bristle. *Pterothorax* about as broad as prothorax, sides sharply converging posteriorly. Fore coxae slender, but little wider than the others. Fore tarsi unarmed. *Wings* well-developed, membrane almost reaching the base of the tube, barely if at all contracted in the middle but the basal fourth markedly wider; very light gray except for a median darker streak along the vein which disappears near the base and a little above the middle; sparsely fringed with

rather long hairs, 3 interlocated ones on fore wing. *Abdomen* narrow at the base, widest at about segments 7 and 8; each segment provided with one or more rather thick but colorless bristles which become progressively longer posteriorly, those on segment 9 being nearly as long as the tube, blunt. *Tube* about two-thirds as long as the head, twice as wide at the base as at the apex, not abruptly contracted at the apex; terminal bristles about as long as the tube.

Measurements: Total length about 1 mm. Head, length .168 mm., width .173 mm.; prothorax, length .109 mm., width .21 mm.; mesothorax, width .224 mm.; abdomen .187 mm.; tube, length .11 mm., width at base .053 mm., at apex .028 mm.

Antennae:

Segment	1	2	3	4	5	6	7	8	
Length	29	40	57	56	44	43	40	29	
Width	37	27	27	27	24	21	17	13	microns

Total length .29 mm.

Described from two females found with the preceding species.

Hood's description of the genus *Gastrothrips* will have to be modified in two respects to admit this species. The tube is not abruptly contracted at the base and there are three interlocated bristles on the fore wing. In shape of head, eyes, prothorax, and mouth cone it agrees with that genus. Only the fourth antennal segment seems to bear a triangular process beneath.

88. Haplothrips angustipennis Wats.

Plant City, Fla. T. H. Hubbell, Coll. Described from Georgia.

89. Microthrips piercei Morgan.

On *Cassia siamea* at Miami, Fla. Feb. 7, 1924. W. T. Owrey, Coll.

90. Scirtothrips owreyi n. sp.

Color dark brown; prothorax and especially abdomen darker, head, pterothorax, all femora and antennae somewhat lighter, all tibiae, tarsi, and antennal segment 3 a much lighter yellowish brown.

Measurements: Total body length 1 mm. to 1.13 mm.; head, length 0.11 mm., width 0.18 mm.; prothorax, length 0.16 mm., width 0.22 mm.; pterothorax, length 0.18 mm., width 0.22 mm.; abdomen, width 0.36 mm.; antennae, total length 0.31 mm.

Segment	1	2	3	4	5	6	7	8	
Length	26	44	58	52	48	63	13	18	
Width	37	30	23	22.5	20.5	21	8	6	microns

Head rounded in front, considerably elevated between the bases of the antennae which it slightly overlaps. Vertex cross striated. A heavy black spine inward from each eye and a very long one arising from below the base of each antennae on the ventral side and two rather short ones midway of each cheek behind the eyes; cheeks arched and roughened. *Eyes* large, slightly protruding, roughly triangular in shape, facets large. Anterior ocellus large, yellow and situated about opposite the anterior margin of eyes. In one specimen the posterior ocelli are absent, in the other very conspicuous, situated at the inner-posterior corner of each eye, margined on the inner side with dark brown crescents.

Mouth cone long, reaching the mesosternum. *Antennae* 8-segmented, segments 2 and 5-8 concolorous with the head; 1, 3, and the base of 4 lighter brown. Spines dark and thick and quite conspicuous.

Prothorax a third longer than the head and nearly .4 wider than long; sides quite convex, but little wider posteriorly than anteriorly; pronotum faintly reticulate striate; one long, one rather short but thick, and one minute bristle on each anterior angle; a pair of long and one minute bristle on each posterior angle; three pairs of bristles along the anterior margin, the second of which are longer.

Sides of the very short mesothorax strongly convex and diverging posteriorly, those of the even shorter metathorax nearly straight and slightly diverging posteriorly. Two heavy spines near the anterior angles of the pterothorax and the metanotum covered with short ones like the abdomen. *Wings* entirely lacking. *Legs* rather short, the fore femora especially so, the latter with a small tooth at the apex on the inner side. Fore tibiae almost as thick as the femora, with a heavy black bristle below the apex on the inside. Tarsi unarmed. Abdomen wide and heavy, the last two segments with very long, heavy, dark bristles on the sides.

Described from two females collected from *Iris trifoliata* at Jacksonville, Fla., by Mr. W. T. Owrey of the Federal Horticultural Board.

This species resembles *Sericothrips apteris* Daniels, in color, the absence of wings, and the long mouth cone, but differs in the presence of ocelli, suture on antennal segment 6, two long bristles on the posterior angles of the prothorax, the presence of a tooth at the apex of the fore femora, and in the shorter head.

91. Chirothrips floridensis catchingsi Wats.

Under the leaf sheaths of Napier grass, Gainesville, Dec. 1924.

Previously described from Louisiana (Bull. 168, Fla. Agric. Exp. Sta.)

The Third International Congress of Entomology will be held at Zurich, Switzerland, July 19th to 26th, 1925, with Dr. A. V. Schulthess as president. General Secretary Dr. Leuzinger, Gloriastrasse 72, Zurich, 7, Switzerland. All entomologists are cordially invited. For the Executive Committee,

Henry Skinner.

The first and second congresses held at Brussels and Oxford, respectively, were very successful and it is now proposed to hold the third congress in a neutral country where entomologists of the belligerent countries could meet without embarrassment, and Switzerland has been suggested as a suitable place and attractive in many ways and convenient for the majority.

MR. WALKER GOES TO COLOMBIA

One of our members, Mr. F. W. Walker, has left for Colombia, S. Am., where he has been employed as entomologist by the United Fruit Co.

THE CELERY LEAF-TYER

The leaf-tyer *(Phlyctaenia rubigalis* Guenee), which did so much damage in the Sanford celery fields during the spring of 1924, has again appeared in large numbers in that section. Owing to the difficulty of getting any poison into the heart of the celery plant where the caterpillar works, the insect was found to be a difficult one to control. Recent trials conducted by the Experiment Station indicate that calcium arsenate blown into the plants by a good dusting machine would seem to offer the most promising means of control.

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